

A Review of Types of Assessment and Evaluation during the COVID-19 Pandemic across the Continents (General Assessment)

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How to cite this paper: Vasu, K., Supian, N., Nimehchisalem, V., Kirshner, J. D., & Ling, S. C. Y. (2024). A Review of Types of Assessment and Evaluation during the COVID-19 Pandemic across the Continents (General Assessment). *Creative Education*, 15, 1125-1139.

<https://doi.org/10.4236/ce.2024.156069>

Received: May 14, 2024

Accepted: June 24, 2024

Published: June 27, 2024

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Abstract

The COVID-19 pandemic left the world in a state of shock. The education sector had to be quick in adapting itself with the new norm. Institutions of higher education had to be adjusted with the new shift from face-to-face to online mode, a shift that created many challenges particularly in the case of assessment. We keep wondering how our colleagues in different countries and across various disciplines dealt with this situation. This review paper is our attempt to find an answer to this query. In our search in Science Direct and Web of Science databases for the keywords; such as, “online assessment/evaluation” and “higher education”, we critically reviewed a total of 36 related articles. The results indicate that institutions of higher education all over the world have drastically changed their assessment practices. Some have made attempts to equip their staff with digital literacy skills to better deal with the situation; however, there have been challenges in design and implementation of online assessments.

Keywords

Online Assessment, COVID-19 Pandemic, Review, Higher Education, Evaluation, Proctoring

1. Introduction

In February of 2019, all aspects of human life were impacted by the emerging

COVID-19 pandemic, including education in over 100 countries across three continents affected by closures of educational institutions (Rahim, 2020). This impact was certainly tangible in higher education institutions that had to react urgently to the shift in online learning (OT&L). Higher institutions have been greatly affected as they run various courses from different disciplines which made switching to online an uphill task that need to be done urgently in a short period of time to ensure the continuation of education of students. As a result, educators needed to re-evaluate their methods of educational assessment that could be used online post-pandemic. The pivot to online learning triggered further expansion into technological dependence for online instruction, execution of class projects, course assignments and assessments, both formative and summative; something that not every institution was adequately prepared for. Indeed, the sudden shift to online learning, teaching and assessment (LTA) brought to light all the “deficiencies of the higher education sector”, (Watermeyer et al., 2020) that warranted close inspection of an institutions’ infrastructure, facilities and staff readiness to cope with digital learning. As COVID-19 hurled both students and academic staff into contactless learning and teaching, it became apparent that the digital divide between higher education institutions (HEIs) from the more prosperous countries placed some nations at a clearer advantage. The International Association of Universities, in their report on COVID-19 and global higher education, noted that “only 29% of African HEIs were able to quickly move teaching and learning online, compared to 85% of HEIs in Europe”, and two thirds of African HEIs were forced to close due to inability to conduct online courses (Marinoni et al., 2020), leading to a loss of learning opportunities for students. Thus, studying the pandemic’s effect on higher education is a crucial step to preparing HEIs for more uncertainties in the future.

Two years have passed now. The situation has been so prolonged that it is hard to believe that we will ever see our students back in the classroom. However, the pandemic has definitely made us stronger. Educators in universities worldwide have revisited and adjusted their summative and formative assessment practices during the pandemic. From a global perspective, higher institutions in different countries have adopted different solutions, from suspending major examinations to convert to online assessments and hybrid assessment in order to cope with the pandemic. Some countries were at an advantage as online assessment and evaluation is not a new thing for them. A review of these online assessment practices would be worthwhile. In this article, we will be reviewing and discussing formative and summative assessment from the perspective of continents around the world.

One of the main factors that needed the most attention when the higher institution shifted its activities online is assessment and evaluation. Online assessment encompasses instructors’ method in implementing formative and summative assessments, which aim to measure learners’ progress, provide constructive

feedback and maintain academic integrity. There are various online assessment methods which are categorised as time-constrained assessment and open-ended assessment (Guangul et al., 2020). Time-based proctored assessments come with their own challenges like technical difficulties on the system during examination time and supporting these students remotely is not an easy feat. Therefore, there are alternative assessment methods to replace the time-based assessment like take home assessment, series of quizzes, annotated bibliography, presentations or demonstration, fact sheets, and e-portfolio. **Table 1** summarizes each method in terms of its characteristics and challenges based on Guangul et al. (2020).

Table 1. Summary of assessment methods in terms of their characteristics and challenges by Guangul et al. (2020).

Assessment Method	Characteristics	Challenges
Time-Based	<ul style="list-style-type: none"> - done by using various learning management systems. - mimics the physical classroom assessment 	<ul style="list-style-type: none"> - exam can be disrupted by technical or connection difficulties unless there is a back-up plan
Open Book, Take-home assessments	<ul style="list-style-type: none"> - an immediate alternative when proctored physical or times-based assessment is not possible - can add a presentation component to the written examination to enhance credibility 	<ul style="list-style-type: none"> - setting up questions which will be challenging enough and not easily answered by referring to the course or online materials - plagiarism
Series of Quizzes	<ul style="list-style-type: none"> - Ongoing assessment that continuously assesses the progress of the students. - different types of questions can be included in different quizzes 	<ul style="list-style-type: none"> - can be overwhelming for students
Annotated bibliography	<ul style="list-style-type: none"> - summarizes information from various sources like research articles, thesis, and books and relate them to the students' own ideas in writing - this kind of task can correspond to higher order thinking skills as students have to select their reading material, read, review and critically relate to their ideas 	<ul style="list-style-type: none"> - challenging for fresh year students
Presentations or Demonstration	<ul style="list-style-type: none"> - live presentation using online platforms like Zoom, WebEx. Microsoft Teams and others 	<ul style="list-style-type: none"> - connection or technical issue
E-portfolio	<ul style="list-style-type: none"> - a compilation of students' best work for the semester. Students write a description for each of the work compiled in the portfolio - students' achievement can be evaluated collectively 	<ul style="list-style-type: none"> - some students with organizational challenges might suffer

2. Method

We searched Science Direct and Web of Science databases for the keywords, “online assessment/evaluation”, “higher education”, and “pandemic”. A total of 36 articles were collected. **Table 2** shows the list of these studies:

Table 2. List of reviewed articles.

Reference	Title	Region/Country	Design
ASIA			
Guangul et al. (2020)	Challenges of remote assessment in higher education in the context of COVID-19: a case study of Middle East College.	Oman	Descriptive-questionnaire
Gamage et al. (2020)	Online delivery and assessment during COVID-19: Safeguarding academic integrity	Sri Lanka	Review
Kamal et al. (2020)	Transitioning to online learning during COVID-19 Pandemic: Case study of a Pre-University Centre in Malaysia	Malaysia	Case Study-Questionnaire
Cahapay (2020)	Reshaping Assessment Practices in a Philippine Teacher Education Institution during the Coronavirus Disease 2019 Crisis	Philippines	Case Study
Şenel & Şenel (2021)	Remote Assessment in Higher Education during COVID-19 Pandemic	Turkey	Survey
Zou et al. (2021)	Teacher engagement with online formative assessment in EFL writing during COVID-19 pandemic: The case of China	China	Case Study
EUROPE			
Toma et al. (2021)	The Use of the Kahoot! Learning Platform as a Type of Formative Assessment in the Context of Pre-University Education during the COVID-19 Pandemic Period	Romania	Review
Nenakhova (2021)	Distance Learning Practices on the Example of Second Language Learning during Coronavirus Epidemic in Russia	Russia	Review
Crawford et al. (2020)	COVID-19: 20 countries’ higher education intra-period digital pedagogy responses	Germany	Review
NORTH AMERICA			
Morgan et al. (2021)	Moving assessment online: Experiences within a school of pharmacy	USA	Descriptive, Survey, Quantitative
Elnicki et al. (2021)	Riding the rapids: COVID-19, the three rivers curriculum, and the experiences of the University of Pittsburgh School of Medicine	USA	Descriptive, Qualitative
Lepe et al. (2020)	Transforming University of California, Irvine medical physiology instruction into the pandemic era.	USA	Descriptive, Qualitative
Harrell et al. (2021)	Crashing from cadaver to computer: Covid-driven crisis-mode pedagogy spawns active online substitute for teaching gross anatomy	USA	Descriptive, Qualitative
Hosseini et al. (2021)	Online assessment in a business department during COVID-19: Challenges and practices	Canada	Descriptive, Survey, Quantitative
Muhammad & Srinivasan (2021)	Online Education During a Pandemic-Adaptation and Impact on Student Learning	Canada	Descriptive, Quantitative

Continued**SOUTH AMERICA**

Oyedotun (2020)	Sudden change of pedagogy in education driven by COVID-19: Perspectives and evaluation from a developing country	Guyana	Review
Bravo-Agapito et al. (2021)	Early prediction of undergraduate student's academic performance in completely online learning: A five-year study.	Brazil	Survey
Radić et al. (2021)	The world universities' response to COVID-19: remote online language teaching	Argentina	Review
UNICEF (2021)	Formative Learning Assessment in Contexts of Remote Provision of Educational Services in Latin America and the Caribbean	Chile and Guatemala	Review

OCEANIA

Pather et al. (2020)	Forced Disruption of Anatomy Education in Australia and New Zealand: An Acute Response to the COVID-19 Pandemic	Australia & New Zealand	Descriptive Qualitative
Tognon et al. (2021)	The assessment of clinical of physiotherapists during and after the COVID-19 pandemic	Australia	Review
Eady et al. (2021)	Shifting the Delivery but Keeping the Focus: A Reflection on Ensuring Quality Teacher Preparation during a Pandemic	Australia	Descriptive Qualitative
Kumar et al. (2021)	Planning and Design of Online Peer Assessment Professional Development	Cook Islands, Fiji, Kiribati, the Marshall Islands, Nauru, Niue, the Solomon Islands, Tokelau, Tonga, Tuvalu, Vanuatu, and Samoa	Descriptive Qualitative

AFRICA

Mafugu (2021)	A Comparison of Selected Assessment Results before and during the COVID-19 Pandemic in One University in South Africa.	South Africa	Survey
Sone & Oluwasuji (2021)	Evaluations in Institutions of Higher Education in Africa: The Case of the University of Eswatini	Swaziland	Overview
Owolabi (2020)	Virtualising the school during COVID-19 and beyond in Africa: infrastructure, pedagogy, resources, assessment, quality assurance, student support system, technology, culture and best practices	Nigeria	Article
Mbabazi et al. (2022)	Analysis of E-exams performance under COVID-19 Pandemic at Kabale University, Uganda	Uganda	Analysis

General Assessment Practices during COVID-19 Pandemic

This section presents the results of our review of the general assessment practices during the period in different parts of the world.

Asia

Oman Based on a study conducted by [Guangul et al. \(2020\)](#) in Middle East College in Oman, it was found that 68% of its respondents chose assignment or project-based assessment over time-based assessment when the assessments shifted to online. From the 32% of respondents who chose time-based assessment, the majority also opted for non-proctored open-ended time-based assessments. This means students were not monitored via a camera while they

took the time-based assessment. This decision was based on the lack of facilities available to carry out a proctored time-based assessment. This study also showed that the teachers preferred assessment that required students to write a report based on a given scenario which they submit through the university online platform. The main reason for this was the ability to cover a wide range of learning outcomes while maintaining the integrity through the Turnitin submission. Another choice of assessment preferred was research-based assessment which required the students to provide a written report and an oral presentation. In short, teacher respondents of these studies preferred assessments which were not proctored due to insufficient facilities and difficulties covering learning outcomes while maintaining the difficulty level of the paper.

Sri Lanka Based on [Gamage et al. \(2020\)](#), due to various challenges including poor infrastructures and financial aids, the shift of assessment to an online platform has been extremely challenging for the country. Poor internet connection has made uploading online assessment answers to the Learning Management System (LMS) a challenge. Therefore, students were allowed to snap pictures of their work for submission purposes; however, this had led to the difficulty of running the documents through the plagiarism check software. Hence, it created more academic misconduct among students.

Malaysia Universiti Malaysia Sarawak, a Malaysian public university in East Malaysia announced online assessment as early as April 2020. The types of online assessment adopted by the institution were online report submission, take-home tests, and also online examination ([Kamal et al., 2020](#)). Laboratory practical assessments too were replaced with appropriate online assessments. Based on [Nassr et al. \(2020\)](#), International University of Kuala Lumpur (IUKL), a government linked university, adopted online assignments, online quizzes, which require students to upload their answers into the online platform after answering them, and retained group assignments as parts of their assessment strategies. University of Cyberjaya, a private university, adopted e-exams utilizing Microsoft Teams in addition to establishing extensive e-library resources ([Ali, 2020](#)).

Philippines A case study in the Teacher Education Institution (TEI) showed that there were drastic changes in this part of the world in terms of assessment and evaluation in response to the pandemic. The changes were made taking into consideration the temporal, logistical and cultural factors ([Cahapay, 2020](#)). The aspects of assessment that were considered when changes were made are grading component, grading system, research work completion and grade point average. In terms of the grading system, attendance became the main factor that determined a pass or fail. On the other hand, in terms of grading criteria, various changes were made taking into consideration the quality of assessment and connectivity issue.

Europe

In response to the upheavals wrought by the pandemic, [UNESCO \(2020\)](#) conducted a study on the impact of COVID-19 on higher educational institu-

tions from the states around Europe in April 2020. Preliminary reports indicated that teaching and learning was sustained using online learning platforms, with online assessments for undergraduates including e-submission of essays; end-of-degree work using videoconferencing; project and task-based work. In a few institutions, entrance exams were cancelled but the regular exams are remote.

Romania The challenge of conducting assessments online presented opportunities for creative use of various learning platforms such as *Kahoot!* to sustain an interest in learning, as well as provide a means for formative assessment for learning (Toma, Diaconu, & Popescu, 2021). *Kahoot!* is a game-based learning platform for interactive tests and is easily accessible with low system requirements. In “Mihai Eminescu” National College, Bucharest, Romania, it was used to explore the potential use of the interactive game to enable students to keep track of their progress in learning geography. Results indicated that assessments using the *Kahoot!* platforms were beneficial for enhancing the teaching-learning-assessment process and fostered more motivation for greater class participation.

Russia In the National Research South Ural State University, the video conference system BigBlueButton (BBB) was utilised as the main learning platform (Nenakhova, 2021). In preparation for international examinations such as IELTS among others, students used online interactive tasks/exercises as detailed below: (Table 3)

Table 3. Content of lessons on Digital SUSU platform.

Aspect	Content	Types	Frequency
Vocabulary check up	Interactive exercises	1) Match the word with its definition 2) Match the word with its translation 3) Match the word with the picture 4) Fill in the blank with suitable word 5) Drop and drag the word into text or sentence	Every lesson
Grammar check up	Interactive exercises	1) Graphical or visual representation of grammar rules. 2) Choose the correct form 3) Fill in the blanks with the correct tense	Every lesson
Reading	Interactive exercises and Attached Texts	1) Answer the question 2) Mark the sentences TRUE or FALSE 3) Fill in the blanks with the missing sentence 4) Match the title to the paragraph	Every lesson
Listening/Video	Attached mp3 files Interactive exercises URL links	1) Fill in the blank with suitable word 2) Drop and drag the word into text or sentence 3) Answer the question 4) Mark the sentences TRUE or FALSE	Every lesson
Writing	Task with attachment possibility	1) Write an essay (on the topic connected with the unit being covered)	As a check point (3 - 5 times a term)

Student feedback indicated that they perceived vocabulary tasks to be most beneficial (62%), followed by reading tasks (60%). Video tasks were perceived as the least useful, despite being reportedly the most interesting, while 37% found tasks on the basic skills—grammar, vocabulary and reading as most useful. In terms of preference, they liked the listening tasks the most (54%), vocabulary as second favourite (44%) and writing tasks the least (26%).

Germany The German response to the pandemic was swift and aimed at obliterating human contact, thus eliminating further risk for spreading the deadly disease, however this resulted in a few impacts for higher education. The University of Passau (Bavaria) closed their library and granted extensions for theses, dissertations and other written assignments. Examinations were to be minimised and all presentations suspended (Crawford et al., 2020). Once situations stabilised, examinations and tests were carried out with the help of computers (e-assessment). Despite being a country renowned for its high technology, Germany was initially somewhat hesitant to jump on the bandwagon and convert to online platforms. This was largely due to an innate fear of breach and abuse of personal data, a legacy from their bitter experience with surveillance under Fascist regime between 1933 and 1945 and the Communist regime between 1945 and 1989 (Kerres, 2020). Furthermore, educators were restricted from using cloud services, social platforms, micro-blogs, or document sharing tools hosted outside of the EU, leading to the development of administrative software solutions by a German universities' cooperative.

United Kingdom In the UK, most assessments shifted to take-home online assessments which are time bound. Existing pre-COVID examination questions were converted to make sure it matches the learning outcome as well as the fact that now students have access to subject notes, text and resources (Gamage et al., 2020). The questions are mostly essay questions that require long responses. Students would download assessment questions from the university portal, respond to the assessment, run a Turnitin check and submit the responses. In the UK context, academic integrity is something that students should take very seriously; therefore, it is their responsibility to ensure that their responses are not plagiarised, not solely the responsibility of the lecturer. This is also to ensure that the relationship between lecturer and teacher is not strained by looking at students as potential criminals by checking their work for originality before grading them. The students are given 48 hours to respond to the assessment. This is to ensure students who have mental and physical disabilities during this tough period of pandemic are supported. University of Oxford cancelled all major examinations for first year students except for law and medicine due to professional certification requirements. On the other hand, final year and postgraduate students were given open-book report writing or long assignments which take several days to complete as part of their final assessment.

North America

The United States of America Massachusetts Institute of Technology (MIT) followed by City University of New York, Northwestern University and Cornell

University shifted very quickly to award “Pass” or “No Pass” grade to all assessments as a response to the pandemic. This shift was with the rationale that students should be allowed to go on with their learning by making mistakes and learning from them, without being too worried about their grades during this difficult time. However, multiple assessments were given, and their responses were checked to ensure that they achieved all the learning outcomes before awarding them with a “Pass” or “No Pass”. These assessments included essays, project presentation, live oral examination and open book tests.

Due to the inequitable impact of the pandemic, various assessment related changes were adopted (Jankowski, 2020). Among the changes that happened were modifying assessment to suit the online platform, extending the due date for the assignments, shifting to Fail or Pass grading, accepting alternative assessments, modifying assessment questions and shift to no credit system. The changes decided were very much dependent on the factor that at the point when the universities were hit by pandemic, the course offered were not designed by faculty experts with comprehensive knowledge on online learning, not all teaching experts were knowledgeable in online pedagogy and the connectivity and resources issues faced by students in the various parts of the country (Jankowski, 2020). This awareness of their students’ struggles with access issues impacted professors’ assessment practice in a variety of ways. “Balancing compassion with standards that motivate hard work was a continuing challenge for instructors during COVID -19” (Means et al., 2021: p. 18). While, the situation was not ideal, the shift was done based on the best available options at the point.

Researchers in the United States became especially mindful of the inequitable impact of the pandemic on marginalized communities enrolled in college across the United States. In particular, Means et al., (2021) reflected on “long-standing inequities to technology access issues which were more prevalent among students of colour and those from lower-income households” (p. 5). With 1008 panelists in the final survey sample, “the percentage showed 23% Hispanic, 15% Black and 37% of respondents came from homes with annual incomes under \$50,000” (p. 2). From this, Means et al. (2021) found minoritized race/ethnicity groups (comprised predominantly of African American and Hispanic students) were more likely to experience internet connectivity problems often or very often (22%) compared to students from non-minoritized groups (12%).

South America

South America or Latin America as it is more popularly known, has a population of approximately 617 million which includes 19 countries with similar linguistic backgrounds dominated by Spanish speakers, with Brazil as the only Portuguese-speaking country (Salas-Pilco et al., 2022). Latin American the enrolment rate in higher education has increased steadily since the year 2000 where Brazil and Mexico have the majority of higher education students, 8.7 and 4.6 million students, respectively (The World Bank, 2021) although studies have shown there is still the need to improve the overall quality of education.

Guyana Like other countries around the world, The Ministry of Education

declared a total closure of all education institutions in Guyana for two weeks initially from 16 March 2020. Being forced to move all teaching and learning online without prior adequate provisions such as internet access, power supply, licence for online platforms among others, educators had to look for solutions to these many challenges (Oyedotun, 2020). Among some of the solutions the University of Guyana came up with were:

Limited opportunity for monitoring assessments. This caused some restriction in terms of assessment initially which resulted in lecturers using more multiple-choice questions (MCQ) for assessment.

Bearable schedules. As the weight of the pandemic caused distressed to many in different areas, the university agreed to provide bearable schedules in terms of assignment and assessments so not to deflate the students desire and enthusiasm for learning.

Alternative assessment. In light of the pandemic, assessments in the form of virtual presentations, interaction models, oral presentations, creative projects using 3-Dimensional modelling and graphics, skits or plays, blogpost journaling, one-to-one conferencing, and so on were suggested. These various forms of assessments can be used to measure authenticity and performance and could be a fresh change in this time of rapid pedagogical transformation.

Change letter grades to credit or no-credit. Whatever will provide relief to students and motivate them to work in an online mode should be given the utmost priority. The awarding of “credit” or “no-credit” might be the best option when the use of letter grade appears to demoralise every effort students put towards learning. The consideration of credit or no-credit in replacement for letter grades is one of the suggested palliative measures at such a time as this.

Brazil In Brazil, dropout risk in institutions increased by 65% under remote learning (Lichand et al., 2021). In addition, average standardised test scores decreased, and it was as if students had only learned 27.5% of the in-person equivalent under remote learning. However, in terms of academic performance, students achieving educational goals, it is found by Alves et al. (2021) that students reported that their academic performance improved when online platforms were utilised. Some of these factors which contributed to the improvement were access to learning content, the number of attempts given to access the online questions, the degree of students’ interaction with online platforms and students age (Bravo-Agapito et al., 2021).

Oceania

In Australia, New Zealand and other Oceania countries, responses by higher education institutions to the 2019 coronavirus (COVID-19) pandemic have been varied, from no response to social isolation on campus to rapid re-development of curricula to fully online teaching (Crawford et al., 2020). The COVID-19 worldwide outbreak, according to Pather et al. (2020), struck institutions across Australia and New Zealand during the February 2020 semester. They stated that academic staff needed to repurpose and redeploy resources, upskill their digital

competencies, and develop new material to transition traditional face-to-face (F2F) and blended programmes to a remote learning and/or online education delivery mode (Johnston, 2020 as cited in Pather et al., 2020). Tele-supervision, teaching remote practise techniques, and developing alternate places are among the changes stated by Fronck et al. (2021). Furthermore, according to Gamage et al. (2020), while some institutions may not place a high value on academic integrity, Australian universities do. They prefer the phrase “educational integrity,” since academic integrity should encompass all facets of the educational profession, not only academics. Educational integrity in Australia is characterised by honesty, trust, fairness, respect, and accountability in learning, teaching, and research. Even in the face of adversity, this integrity will not be shaken. As a result, Australian educational institutions are responding to the pandemic by integrating various online teaching and learning approaches, on the one hand, and attempting to ensure assessment security, on the other. The Academic Integrity Standards Endeavor (AISP) is one such project (Gamage et al., 2020). AISP intends to improve the positioning of academic integrity policies and their implementation among Australian higher education providers and also to create shared insight about academic integrity.

Africa

Africa is the world’s second largest continent with 1.3 billion of population in total as of 2018. Despite this, Africa is considered the least wealthy among all the continents in terms of policies and economic factors. The continent contains fifty four (54) countries and eight (8) territories. Most higher education institutions in Africa’s record systems do not record corresponding data.

Eswatini (Swaziland) A study conducted at the University of Eswatini’s Faculties of Humanities, Education and Social Sciences found that the nature and quality of assessment instruments used will influence the type of learning that takes place. What this means is, if the lecturer evaluates acquisition of knowledge, then the student will tend to study this in isolation. Sone and Oluwasuji (2021) recommended that since the existing examination system is subjective, it is necessary to review it periodically to ensure that it fulfils the purpose for which it is designed to achieve. In other words, if higher educational institutions in Eswatini and other African countries intend to equip graduates with attributes necessary for professional practice, for example, critical thinking and life-long learning capabilities, then the current assessment practices must be re-examined. They also recommend lecturers to go for in-service training to update their knowledge and skills of assessment. This training will enable the teachers to construct valid, reliable and standardized instruments in order to provide a basis for comparability.

South Africa At the University of Johannesburg (UJ), a public higher education institution, existing assessments were redesigned for online platforms taking into consideration the connectivity issue faced by a big number of students. Other than that, academic regulations in the university were tweaked in order to

emphasize formative assessments over summative assessments. Academics reported the use of mini assignments to ensure academic excellence among students despite the sudden change of the methods (Motala & Menon, 2020).

3. Conclusion

In conclusion, different countries from different continents have adopted similar and different online assessment strategies as the response to the pandemic at the level of higher institutions. In addition, the inequitable impact of the pandemic also posed different challenges which led to different types of online assessment choices. The strategies varied from changing to grading method, modifying existing examinations to suit the online context to adopting completely new strategies.

Our review of the related literature on types of assessment and evaluation during the COVID-19 Pandemic across the Continents leads us to multiple practical implications. It is recommended that institutions of higher education develop flexible assessment methods that could be adapted in possible similar cases in the future. For this purpose, training educators, investing in technology useful for online assessment, and developing versatile assessment frameworks that can be used in both online and face-to-face settings. In addition, joint collaboration between institutions of higher education and governments is necessary so that the respective stakeholders, underprivileged students in particular, have access to the essential resources, such as high-speed internet connection and usable devices. A final point that must be emphasized here is the issue of quality assurance in online assessment settings. The integrity and quality of assessments has to be maintained during online assessment. For this purpose, using diverse assessment types (such as open-book exams and project-based assessment), implementing reliable proctoring systems, and updating assessment criteria regularly can be recommended to make sure educational standards are maintained.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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